REMARKS

Claims 1-20, 22-32 and 34-44 are pending in the application. Claims 1, 22, 32, 34 and 43 and have been amended. Claims 21 and 33 have been cancelled.

In the Office Action, claims 1-44 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication 2002/0033449 (Nakasuji) in view of U.S. Patent 6,014,200 (Sogard). This rejection is respectfully traversed. Applicants respectfully request reconsideration and allowance of the claims in view of the following arguments.

Regarding the obviousness rejection of independent claims 1 and 32 based on Nakisuji and Sogard, these claims have been amended for clarity to recite that the movable stage moves the object to be inspected substantially linearly in a scanning direction that deviates from an axis of the spot array, such that as the object is moved a distance substantially equal to a length of the spot array in the scanning direction, the spots trace a substantially continuous path on the object surface in a mechanical cross-scan direction. The language of this amendement originally appeared in dependent claims 21 and 33, which have consequently been cancelled. This inventive scanning technique is illustrated, for example, at Fig. 2 of the present application, and is explained at page 8, line 18 et seq. of the present application. As can be seen in Fig. 2 of the present application, the claimed invention moves the object to be inspected in a slightly diagonal direction to the X and Y axes. The claimed apparatus/method enables the electron beam spot array to remain stationary as the object to be inspected is moved by the movable stage.

The primary Nakasuji reference does not teach or suggest moving its object to be inspected in a scanning direction that deviates from an axis of its spot array, such that as the object is moved a distance substantially equal to a length of the spot array in the scanning direction, the spots trace a substantially continuous path on the object surface in a mechanical cross-scan direction, as claimed

in amended independent claims 1 and 32. Rather than moving an object in a direction that *deviates* from one axis of its spot array to trace a path in the mechanical cross-scan direction (i.e., in the direction of the other axis), Nakasuji teaches using a movable stage to move a sample *along the Y-axis* of its spot array, as explained in Nakasuji's Abstract and at paragraphs 530 and 531, and thereafter moving the sample *along the X-axis* of the spot array.

Nakasuji's scanning technique is fundamentally different than that of the claimed invention. Nakasuji's stage moves in the Y-direction only, while at the same time its electron beam or beams are raster scanning a predetermined width of the sample in the X-direction of its spot array using a beam deflecting system (i.e., the spots of Nakasuji's spot array each move to scan a predetermined area). The sample is then shifted by the moving stage in the X-direction, and the process is repeated in the negative Y-direction (see Nakasuji Abstract and paragraphs 530, 531; see also Nakasuji paragraphs 402, 464, 465, 487). In contrast, as shown in Fig. 2 of the present application, the claimed invention scans the object to be inspected in a direction that deviates from the Y-axis for the length of the spot array, such that spots trace a path in the X-direction (the mechanical cross-scan direction). The spots of the electron beam spot array therefore do not need to be moved in the X-direction with a deflecting system.

Like Nakasuji, the cited Sogard reference does not teach or suggest the claimed apparatus for/step of moving an object to be inspected in a scanning direction that deviates from an axis of a spot array, such that as the object is moved a distance substantially equal to a length of the spot array in the scanning direction, the spots trace a substantially continuous path on the object surface in a mechanical cross-scan direction. Therefore, any combination of Nakasuji and Sogard, however made, would still be missing this important claimed feature, and it would not have been obvious to

add this feature to any Nakasuji/Sogard combination to yield the invention of independent claims 1 or 32.

Consequently, claims 1 and 32 are patentable, as are claims 2-20, 22-27, 34-37, 43 and 44, which depend from claims 1 and 32, respectively.

Further regarding dependent claims 3 and 4, while Nakasuji teaches compensation for mechanical inaccuracies in the movable stage, neither of the cited references teaches or suggests the particular types of mechanical or optical compensators required by claims 3 and 4. Consequently, claims 3 and 4 are further and separately patentable.

Further regarding dependent claim 11, neither cited reference teaches or suggests the recited optical spot array generator comprising a micro-lens array. Consequently, claim 11 is further and separately patentable.

Further regarding dependent claim 27, neither cited reference teaches or suggests generating a sufficient number of rows of spots such that neighboring pixels used for an image processing algorithm are all from one of the columns of spots, as required by this claim. Consequently, claim 27 is further and separately patentable.

Further regarding dependent claim 43, neither cited reference teaches or suggests the movable stage for moving the object as required in this claim. Consequently, claim 43 is further and separately patentable.

Regarding the obviousness rejection of independent claims 28 and 38 based on Nakasuji and Sogard, neither cited reference teaches using two sets of beam generators and detectors to generate images of two corresponding objects using the same movable stage, and comparing the two resulting images, as required by these claims. Nakasuji teaches simultaneously obtaining two images of objects at different locations on a sample, to speed up inspection time (Nakasuji

paragraph 481). However, Nakasuji does not teach or suggest that the imaged objects at the different locations correspond to each other, and Nakasuji does not teach or suggest comparing the images with each other, as claimed. As pointed out in the Office Action, Nakasuji compares images of inspected objects with pre-set reference images stored in a reference image storage device (see, e.g., Nakasuji paragraphs 354, 474), but does not teach or suggest comparing images of two inspected objects, as claimed.

Like Nakasuji, the cited Sogard reference does not teach or suggest the claimed apparatus for/step of comparing images of two corresponding inspected objects. Therefore, any combination of Nakasuji and Sogard, however made, would still be missing this feature of claims 28 and 38, and it would not have been obvious to add this feature to any Nakasuji/Sogard combination to yield the invention of independent claims 28 or 38.

Consequently, claims 28 and 38 are patentable, as are claims 29-31 and 39-42, which depend from claims 28 and 38, respectively.

Reconsideration and withdrawal of the rejection of claims 1-20, 22-32 and 34-44 under 35 U.S.C. §103(a) are respectfully requested.

Accordingly, it is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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